ImpAct

- sharing experience
- defining good practice
- improving service delivery
- supporting learning in the NHS

NHS Learning Network

Health and efficiency are two words we supposedly can't use together because of their association with magazines with a somewhat risqué reputation from another era. But in delivering good quality healthcare, efficiency is everything. Better efficiency will probably mean a better service, with less stress for staff and better health outcomes for patients.

Constraint

One way to tackle efficiency is to take a long, hard look at what you are doing and find where it is not doing so well. A version of that is the theory of constraints. This issue of ***ImpAct*** features both an example of how efficiency increased in ophthalmology and where you can find out more.

Waste

Bandolier 69 featured a review of studies examining ways to tackle high rates of patients not attending out-patient clinics (did not attends, or DNAs). The two DNA case studies in this issue of ***ImpAct*** were undertaken alongside an advertising campaign in the Northern and Yorkshire Region. Health Authorities and NHS Trusts paid the £140,000 campaign costs. It was aimed at reducing the number of missed NHS appointments. It was launched in March 1999 and involved five weeks of TV advertising supported by the posters and other material. It urged patients to let the health service know if they could not make an appointment. The campaign won an award for excellence at the annual Communicating Health Awards.

While it may have had other benefits it seemed to have little impact on the level of DNAs. This experience reinforces the message from the quick review in ***Bandolier*** 69 that simple written reminders, shortly before appointments, are a proven way of reducing DNAs. The message from the two case studies is that tailoring measures to patient groups can have dramatic effects and reduce DNAs by more than half. The result is a service that is more efficient and knows it is doing a good job.

In this issue

FOCUSING ON OPHTHALMOLOGY WAITING LISTS

Using the 'Theory of Constraints' methodology to increase improve services to patients.

Why was the initiative launched?

In 1998, the NHS Executive Office for the Anglia and Oxford Region organised a workshop to explore whether the 'Theory of Constraints' (TOC) methodology could be used to help NHS Trusts manage their waiting lists. The workshop was part of the regional waiting list initiative and involved the National Patients' Access Team and Ashridge Management Consultancy.

The Radcliffe Infirmary, in common with many other organisations, was seeking innovative ways to tackle a long standing problem: how to reduce waiting lists in ways that did not sacrifice the quality of care provided to patients. Following the regional workshop the Trust decided to set up a Trust-wide programme to check out the TOC ideas. Two specialities, ophthalmology and neurosurgery, were chosen as the initial targets. Could the TOC approach really work in the NHS?

What was done?

Two workshops were arranged locally to help people involved understand the principles of the TOC approach. A programme of projects was designed to promote shared learning across the organisation, with three key objectives:

- Improve areas where staff are continuously stressed
- Reduce and/or eliminate waiting lists
- Maximise theatre use

A review team consisting of Mr Paul Rosen, consultant ophthalmic surgeon, Barbara Cripps and Rebecca Turner, senior nurses, Meg Dale, waiting list administrator and Kathy Hulcup, Directorate Manager, was charged with leading and co-ordinating the work within ophthalmology.

Problems

A series of meetings were held with clinical team and managers to explore the optimum operating theatre capacity. A realistic profile specific to individual theatre lists was pro-

duced to establish the optimum number of cases per list and to reflect case mix and acknowledge individual surgeon's operating speeds. The discussions quickly confirmed that even working to absolute capacity it would not be possible to meet target levels of activity. Using the TOC approach surgical time was identified as the constraint within the system: a bottleneck that had to be eliminated.

Solutions

A number of ideas for extending theatre time were considered and the team chose to organise a trial to test twilight operating. Sessions were planned for three days per week, starting at 5pm and operating on five patients per session. There was some initial concern about how the idea would be received by patients. In the event it soon became evident that for some patients these sessions were much more convenient. It was easier for working members of families to escort patients to and from hospital, for instance. It also provided a calmer environment than the normal busy hubbub of hospital activity.

Phasing the workload throughout the day and evening was using theatre time more effectively and in ways that suited patients. This approach to increasing workload used ward staff more evenly during the working day. Progress was being made but the team was keen to explore other ways to ensure that sessions were used effectively.

Session start times and intervals between patients seemed to offer promising ways to speed the process. Other obstacles had already been removed. Patients no longer changed their clothing for surgery and where possible they walked from the clinic to the theatre. Traditionally the hospital had provided a chair to transport patients to theatre but it was clear that for most patients this was not needed. This change of policy released a good deal of porter time.

Ringing the changes

The team's discussions with staff suggested that further improvement might be possible if a buffer system was set up to ensure that surgeons would not have any wasted time between patients. Instead of calling patients one at a time it was suggested that two patients were called to ensure that a surgeon never waits for a patient to be brought. A small room close to the theatre was provided as a waiting area. Over time the practice fell out of use, yet productivity remained high. It was felt that the heightened appreciation of the issue of surgeons waiting for patients to be brought created by focussing on efficiency negated the need for such a buffer. Creation of a buffer follows a basic TOC principle that constraints should not be starved.

Is it working?

In designing the work programme the team wanted to be clear about how they would measure success. Measurement would be both quantitative and qualitative. Data would be available continuously to demonstrate both success and the need for further improvement. The views and experience of staff would be shared to promote learning across the Trust.

Table: Constraints overcome in Oxford

Radcliffe Infirmary: Ophthalmology Department

Waiting Lists	Average list	Reduction
March to August 1998	2250	
March to August 1999	1950	13%
Elective activity levels	**Average FCEs**	**Increase**
January to June 1998	325	
January to June 1999	450	38%

The work started in earnest in the summer of 1998 and within a matter of months good progress was being made. Between March 1998 and March 1999 the waiting list was reduced by about 10% with an increase in activity overall of about 900 cases. Activity increased overall by about 24%. Over eighteen months:

- Throughput was up by 20%
- Waiting list performance was significantly improved
- Average waiting time is down to ten weeks and has been consistent for over a year
- No additional resources were required

There is a real sense of success within the ophthalmic team overall. As one nurse said *"the most valuable thing was to work with management to do what is best in meeting the Department's clinical objectives"*. This was reflected by the Ophthalmology Department's achieving Beacon status in May 1999.

There has been similar success with work in neurosurgery with reductions in elective cancellations and increased throughput. Taken together these projects have enabled staff in the Trust to make real progress in exploring how TOC can help them improve efficiency and the quality of care to patients. The need for flexibility is evident. Overcoming the main constraint in the system by supporting it and using buffer management often means the creation of others - that will require attention in the continuous quality cycle. The Trust has now set in hand a further programme to extend the approach into other specialities.

Tips for success

- ✓ Remember TOC is a thinking process and not a list of possible solutions.
- ✓ Success is more likely if the methodology is embraced by a core group of senior people in the organisation.
- ✓ Involve all staff levels in finding solutions.
- ✓ Watch the use of language because the jargon of TOC is not necessary for everyone.
- ✓ Don't think of TOC as yet another expensive management tool. It is a relatively simple set of basic principles that are accessible to all.
- ✓ Don't allow historical tradition, *"we've always done it this way"*, to inhibit innovation.

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The following materials are available:

- Theory of Constraints – Implementation at the Radcliffe Infirmary.
- Radcliffe Infirmary Ophthalmology Beacon information.

ImpAct bottom line

⇒ Tackling those parts of a process that dictate the pace overall may be the best way to achieve rapid change

THEORY OF CONSTRAINTS

The "Theory of Constraints" was first described by Eli Goldratt in the early 1980s and has since been used extensively in industry. It is a set of thinking processes that use cause and effect logic to understand what is happening and then to find ways of improving it. It is based on the simple fact that multi-phase processes, in whatever setting, can only move at the pace of the slowest step. The way to speed up the process is to use a catalyst to work on the slowest step and make it work at capacity to speed up the whole process.

The theory emphasises being clear about finding and supporting the main limiting factor. In describing the theory these limiting factors are called *'constraints'*. Constraints could be an individual, a team, a piece of equipment or a local policy, or the absence of some tool or piece of equipment.

The five essential steps in the TOC thinking process are:

1 IDENTIFY the system *constraint*. What are the main bottlenecks?
2 GETTING THE MOST of the *constraint* as currently operating by recognising that throughput is governed by the speed of the constraint.
3 SUPPORT the *constraint* by finding different and better ways for the constraint to work and remove tasks it does not need to do.
4 ELEVATE the *constraint* within the system so that all parts of the system understand its importance and work to get the most out of it.
5 GO BACK TO STEP 1 and start over again in a continuous process of improvement. Remember that the original constraint will have changed!

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IMPROVING THE HANDLING OF REPEAT PRESCRIBING

Using CQI methodology to improve repeat prescribing in a general practice in Bournemouth.

Why was the initiative launched?

Questions about repeat prescribing arose at Talbot Medical Centre when the practice was exploring ways to improve how it ran. A survey of receptionists had shown that handling repeat prescribing was their most stressful and frustrating activity. They felt that their work was becoming increasingly unmanageable. They seemed to spend large parts of their time waiting in corridors to ask GPs to sign prescriptions. Although it was felt that a good service was being provided to patients, this was at a high cost to themselves.

The practice was already talking about adopting continuous quality improvement (CQI) methodology as a means of improving systems within the practice. A review of the handling of repeat prescribing would provide a valuable way of checking its usefulness.

What was done?

A small team undertook the detailed work, led by a GP partner and including the practice manager, three receptionists and a facilitator from Bournemouth University. In picking the team, care was taken to ensure that all levels of the process were represented by those involved. The facilitator brought experience of CQI methodology, for example the Plan-Do-Study-Act (PDSA) cycle. The team met four times over three months, usually at lunchtime.

The first question in the PDSA cycle is '*What are we trying to achieve?'* The team agreed this should be '*To improve the repeat prescribing system so that all patients' repeat prescriptions are processed within 48 hours and are ready for collection at the specified time'*. Initial discussion helped them be clear about what they needed to know. They used various methods to help them build up a complete picture of what was happening currently, including a short audit to assess how many repeat prescriptions were ready within 48 hours.

The team used brainstorming techniques in their meetings so that all the members could contribute their ideas. Two early products of the team's work were flow-charts which:

⇒ Identified the main steps in the process and listed the individual tasks which were required to make the process work.
⇒ Illustrated how a prescription request travelled through the system and the links between the individual steps.

These charts enabled the team to think through their task and focus on activities that offered scope for improvement, such as where it was unclear what happened, or where delays occurred.

The second question in the PDSA cycle is *"How will we know that a change is an improvement?* The team chose four areas, to

⇒ Increase the percentage of prescriptions available for collection within 48 hours.
⇒ Reduce the number of prescriptions requiring checking of medical records.
⇒ Create an overall system which works better - with receptionists wasting less time.
⇒ Reduce patients' complaints.

There came a time when the talking had to stop and action taken. The team had to answer the critical third question in the PDSA cycle *"What changes can we make that will result in an improvement?"* They focused on four changes to the way that the practice had previously handled repeat prescribing. The team led discussions across the practice to ensure that the changes were understood by all and acted on. The four changes were:

◊ Prescribing protocols were drawn up and endorsed by all partners as a standard approach to prescribing in the practice, and drugs prescribed during visits would also be recorded in medical records.
◊ Signing of prescriptions would be given higher priority; for example, they would be passed to GPs at breaks, midway through surgery, so that they could be signed with the computer to hand rather than signed in a central area where there were many interruptions.
◊ The computer used for printing prescriptions was moved closer to the reception desk so that queries could be dealt with by a designated member of staff.
◊ The detailed flow chart of the process for handling repeat prescription to be used by everybody in the practice is on the wall next to the computer as a constant reminder and useful for training new staff.

Is it working?

A series of audits and surveys was planned to check progress in the four key areas: the results are encouraging. The work has shown that the use of CQI methodology offers a productive way to learn about and improve practice. Specific improvements are:

- The percentage of *prescriptions available for collection within 48 hours* has shown improvement. The Table shows the progress made in the first two years. The hiccough in the 24-month figure was due to one partner accidentally taking prescriptions home over the weekend and not bringing them back!
- The percentage of *prescriptions available for collection within 24 hours* has shown a steady improvement indicating that the system is running smoothly.
- The number of *prescriptions needing records* has also shown a gradual decline. The level of reduction could be equated to about one working day each month.
- The *overall system* of working has been well received by staff throughout the practice. A survey has shown staff

Repeat prescribing process at Talbot Medical Centre

	Baseline	Months 6	12	24
Prescriptions in audit	1444	986	1624	1445
Prescriptions done in 48 hours or less (%)	95	98	99	97
Prescriptions done in 24 hours or less (%)	71	83	86	88
Needing medical records (%)	18	11	11	9

to be very positive about the new process. In particular receptionists have said that the system is much less stressful and they now spend much less time waiting in corridors.

- Staff have noticed a reduction in the level of *complaints from patients*. Indeed no complaints from patients have been recorded in a new complaints book that was opened when the new system was introduced.

Tips for success

✓ Make sure that the individuals in the team undertaking the work have good current knowledge about the system for review.

✓ A locally respected leader for the team is important: the Talbot Medical Centre was able to build on the respect for a local GP.

✓ Use a tried and tested approach like CQI methodology to provide a structure. It helps teams to be systematic and learn about the costs of achieving change.

✓ Make sure that arrangements for managing to work include regular reports to *all* staff about progress. Most will have an interest in its success.

✓ Involving an external facilitator who can offer advice on methodology can speed progress, but has costs that may be difficult to cover.

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The following material is available

- Paper from Quality in Health Care providing a more detailed description of CQI and of the work in the practice.
- Some key references and sources of advice about CQI and PDSA.
- Additional charts on ImpAct Internet site

ImpAct bottom line

⇒ **Investment in time may be worthwhile if it produces a uniform and efficient way of doing things - rather than major change**

IMPROVING ATTENDANCE AT ENT CLINICS

Exploring ways to reduce DNAs at the North Riding Infirmary, Middlesbrough.

Why was the initiative launched?

As part a programme of work across the Trust a new process was developed to manage outpatient clinics. This built on earlier success in using EFQM methodology (***ImpAct*** 4 November 1999). Introduction of the new process delivered many benefits for patients, such as shorter waiting times in clinics. It was recognised, however, that the full benefits would not be realised unless ways could be found to reduce the number of patients not attending clinics (did not attend, DNAs), a common problem in the NHS.

It was argued that if the clinics were set up in the right way, reflecting the concerns and interests of patients and staff, the number of DNAs would reduce. Experience showed that the new process had only limited impact on the number of DNAs, so the ENT Department at North Riding Infirmary set out to explore other ways to reduce their DNAs.

What was done?

When the new process for managing outpatients was introduced in 1998 it included a series of steps to try to reduce the number of DNAs. These were:

⇒ A template was provided to help GPs provide the right information about patients.

⇒ Patients would be sent an appointment letter immediately and a reminder letter two weeks before the appointment.

⇒ Efforts would be made to avoid inappropriate appointment times, for example when ambulances would not be available

⇒ Advice would be given to patients about how to cancel appointments.

⇒ Arrangements would be made to ensure that any cancellations received by the hospital were passed on promptly to the clinic.

There was some initial success in reducing the number of DNAs. Before the new system was introduced the (1997) DNA rates for ENT were 14% for new appointments and 20% for review appointments. By mid-1999 the new rates had settled around 12% for new appointments and at about 13% for review appointments.

The ENT Department at North Riding Infirmary decided to explore whether a further reminder to patients by telephone would improve the situation. An action plan was agreed for one month in which:

- All new patients would be telephoned one week before their appointment between 5pm and 7.30pm.
- If the patient had an answering machine a message would be left.
- If the patient record did not include a telephone number the GP surgery would be contacted.
- Jackie Burton and Karen Poole, clerical staff in the ENT office, would make the telephone calls.

Did it work?

During the month-long experiment about 500 patients were telephoned Some of the results are surprising (Table). About half of the patients did not know their appointment times or why they were coming for the appointment. Most thought that it was a good idea to remind them of their appointments. The telephone calls confirmed the problems patients were experiencing in trying to contact the Department by telephone.

The initiative did not, however, make any significant improvements in attendance levels. The DNA rate for new appointments for the month before the experiment was 10% and for the period of the experiment it was 8%. This 8% represented 60 patients, and during the experiment:

- 11 said they would attend
- 36 had no telephone
- 10 did not answer
- 3 were left messages

The initiative involved about 50 hours staff time. *The ENT Department has concluded that the idea of additional telephone reminders did not offer a practical way of reducing DNAs.* However, two local issues about the use of telephones have been clarified. First, patients had real problems if they tried to contact the Department by telephone to cancel their appointment because there is only one telephone line. Action is in hand to remedy this situation. Second, changes to local telephone numbers and the growing reliance on mobile phones mean that information about patients' telephone numbers is not readily available.

North Riding Infirmary: Results of telephone reminders

Numbers	Action
221	No telephone
253	GPs contacted to check number
491	Patients telephoned
34	Wrong number recorded
94	Patients did not answer
7	Patients cancelled appointments

The ENT Department is now exploring other ways of tackling the problem. It is analysing information about DNAs to see if other solutions can be found - are the problems about access, public transport or car parking etc.

Tips for success

- ✓ Don't expect that a better system for managing clinics will necessarily eliminate the problem of DNAs.
- ✓ Build on the proven success of written reminders.
- ✓ Don't expect the use of telephone reminders to make a sizeable impact on the number of DNAs.
- ✓ Remember that everyone does not have a home telephone: only 80% of the patients involved in the North Riding experiment had a telephone.
- ✓ Link with GP surgeries to keep patients' telephones up to date - cover both home and mobile numbers.

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The following material is available

- ♦ Copy of ENT protocols and standards
- ♦ Samples of appointment and reminder letter
- ♦ Report of telephone reminder initiative

ImpAct bottom line

⇒ **Don't be afraid to try new ideas, and have the courage to stop if they don't work.**

TACKLING DNAS IN A COMMUNITY TRUST

Looking at ways to reduce DNAs at Hull and East Riding Community Health NHS Trust

Why was the initiative launched?

A history of large numbers of patients not attending outpatient clinics prompted the Trust to invite the District Audit Office to carry out an audit of the systems used to operate outpatient clinics in 1996. At the time the Trust had one of the highest DNAs rates in the region about 29%. The audit highlighted a number of problems that would need to be tackled if clinics were to be run efficiently and the numbers of DNAs reduced. Since the report was received the Trust has set in hand a number of initiatives to reduce the rates of DNAs.

What was done?

The District Audit report recommended the establishment of a policy for the management of outpatient clinics together with the introduction of standard operational guidelines and procedures. Better recording systems were seen as essential to ensure that management could monitor progress.

The Trust organised two workshops in 1998 to discuss the report and review the handing of appointment systems and DNAs with medical secretaries who had a unique insight into the problem. The consensus was that the key to success rested on better communications, both within the Trust and with patients. A means of assembling better information about why patients did not attend was also seen as a potentially useful way forward.

The Trust subsequently established and adopted, from 1st January 1999, a Trust-wide standard outpatient clinic procedure for issuing appointments. The main features of this are:

- Appointment letters would provide a named contact for the patient to call for more information and/or to rearrange the appointment if the timing was inconvenient.
- A contact telephone number.
- The name of the person the patient will see.
- The time of the appointment and probable length of consultation.
- A copy of the appointment letter would be sent to the GP.
- If the appointment is sent out eight or more weeks before the appointment a reminder card is sent two weeks before.
- An information leaflet about the clinic and a site map.

In addition the Trust developed a questionnaire to be sent to people who did not attend to ask why. It would cover a range of issues that the Trust could address as it sought further improvement in DNA rates. At the time there was some scepticism that patients would complete the questionnaires, but it was felt worthwhile to try to get the information. The questionnaire would be sent to everyone who failed to attend their appointments and offer a choice of reasons for not attending and a free text section for other comments.

Did it work?

The new policy and procedures had some encouraging early results with average DNA rates falling (Table 1). The Trust no longer has the dubious honour of being near the top of the regional league table for DNAs!

The questionnaire was a good deal more successful than had been expected, confounding the sceptics. In fact about 100 patients returned the questionnaire between January and March 1999, albeit a relatively small proportion of those issued. The information did not offer a magical way of solving the DNA dilemma. Table 2 shows the main reasons given for not attending. Some of the other points made by patients included: they could not get time off work; could not understand the doctor, did not like the location of the clinic, could not understand the letter and bad weather. The high proportion of patients who had not received their appointments led to a review of the postal service to check both out-going and returned mail.

The Trust decided that further progress will require action related to the needs of specific departments rather than through a Trust-wide approach. For example, each Consultant now receives their DNA rates on a monthly basis. They

Table 1. Hull and East Riding Community Health NHS Trust: DNAs overall

	New patients			Reviews			
	Seen	DNA	%	Seen	DNA	%	Overa DNA (%)
Dec-98	254	85	25	489	129	21	22.3
Mar-99	380	89	19	664	136	17	17.7
Jun-99	322	59	15	579	148	20	18.7

Table 2. Hull and East Riding Community Health NHS Trust: DNAs Questionnaire

Reason Given	Number
Forgot	42
Did not receive appointment letter	23
Too ill to attend	20
Appointment inconvenient	9

are encouraged to look at ways to adapt the standard procedure to reflect their patients' needs. Options for restructuring clinics are being encouraged, for example to site clinics closer to where patients live. The Trust covers a large rural area as well as urban Hull and for some patients transport is a real problem.

The steps taken by one consultant psychiatrist illustrate the way that the standard procedure has been adapted. Specific appointment times are only sent to patients who are referred by GPs for an urgent appointment. Other patients are asked to contact the clinic to make a convenient appointment. The experience of this approach has been encouraging (Table 3) and progress is being sustained.

Table 3. Hull and East Riding Community Health Trust: DNAs in Psychiatry

	New patients			Reviews		
	Seen	DNA	%	Seen	DNA	%
April	23	5	18	45	11	20
May	17	12	41	46	14	23
June	38	2	5	39	1	3
July	42	3	7	62	6	9

Tips for success

- ✓ Simple postal reminders for patients can reduce DNAs if appointment letters are issued long before appointments.
- ✓ Don't underestimate the willingness of patients to complete questionnaires.
- ✓ Some successes can be achieved by tackling issues across departments, but further progress may be speciality specific.
- ✓ Ensure that all staff, non-clinical and clinical, are involved in discussions about the development and introduction of new systems.
- ✓ Make sure that the information provided to patients reaches them and don't overlook the need for efficient mailing systems.

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The following material is available

- ♦ Trust Policy for DNAs
- ♦ Samples of Appointment and reminder letters
- ♦ Outpatient Appointment Survey (for sent to DNAs)
- ♦ Report of analysis of responses to questionnaires

ImpAct bottom line

⇒ **Persistence is required if you want to overcome long-standing problems.**
⇒ **Solutions have to be tailored to the particular problem. Solutions may be different but the process of solving them is the same.**